

Page 19, before line 13, insert the heading -BRIEF DESCRIPTION OF

Q3 THE DRAWINGS-; and

Page 19, between lines 36 and 37, insert the heading -DESCRIPTION OF

Q4 PREFERRED EMBODIMENTS--.

IN THE ABSTRACT:

Please insert the Abstract of the Disclosure as submitted in the appended sheet.

IN THE CLAIMS:

Please cancel claim 7 and 14, without prejudice, add new claims 15-20, and amend claims 1-6 and 8, 13 as follows:

1 1 (Amended). Method of processing X streams of information symbols to be  
2 transmitted on Y communication channels, X and Y being positive integers, [in which] wherein  
3 the Y communication channels simultaneously occupy a transmission resource organized as  
4 successive frames, [in which] wherein the successive frames include compressed-mode frames  
5 each having at least one inactive period during which no symbol is transmitted, [in which]  
6 wherein the information symbols of each stream i ( $1 \leq i \leq X$ ) are transmitted in [the course of]  
7 successive transmission time intervals each comprising  $F_i$  consecutive frames,  $F_i$  being a  
8 positive integer, and [in which] wherein, for each transmission time interval relating to a stream  
9 i ( $1 \leq i \leq X$ ), integers  $E_i$ ,  $\Delta N_i^{\text{TTI}}$  and  $\Delta N_i^{\text{CM}}$  are defined such that  $E_i > 0$ ,  $\Delta N_i^{\text{CM}} < 0$  if [the] said  
10 transmission time interval comprises at least one compressed mode frame and  $\Delta N_i^{\text{CM}} = 0$  if [the]  
11 said transmission time interval does not comprise any compressed-mode frame, the method

12 comprising the following steps for each transmission time interval relating to a stream  $i$  ( $1 \leq i \leq$   
13  $X$ ):

14 forming a first sequence  $[(c_i)]$  of  $E_i$  coded symbols [coded on the basis of] from  
15 information symbols of [the] said stream pertaining to [the] said transmission time interval;

16 forming a second sequence of symbols  $[(h_i)]$  including  $E_i + \Delta N_i^{TTI} + \Delta N_i^{CM}$  symbols  
17 extracted from the first sequence and  $\Delta N_i^{CM}$  marked symbols;

18 forming a third sequence of symbols  $[(q_i)]$  by a permutation of the symbols of the  
19 second sequence; distributing the symbols of the third sequence into  $F_i$  segments of consecutive  
20 symbols, the  $F_i$  segments being respectively assigned to the frames of [the] said transmission  
21 time interval; and

22 for each frame of said transmission time interval, forming a fourth sequence  $[(f_i)]$  of  
23 symbols extracted from the segment assigned to said frame, [the] said permutation and the  
24 placing of the marked symbols in the second sequence when [the] said transmission time  
25 interval comprises at least one compressed-mode frame being such that each marked symbol  
26 belongs, in the third sequence, to a segment assigned to a compressed-mode frame, and the  
27 following steps for each frame:

28 forming a fifth sequence of symbols  $[(w)]$  including the symbols of the fourth sequence  
29 output for [the] said frame in relation to each stream;

30 distributing the symbols of the fifth sequence into  $Y$  segments of symbols, the  $y$   
31 segments being respectively assigned to the  $Y$  communication channels;

32 for each communication channel, forming a sixth sequence  $[(u_i)]$  of symbols extracted  
33 from the segment assigned to [the] said communication channel;

34 for each communication channel, forming a seventh sequence of symbols  $[(v_j)]$  by a  
35 permutation of the symbols of the sixth sequence; and  
36 transmitting on each communication channel, in time slots of [the] said frame, symbols  
37 extracted from the seventh sequence, each of said [the] marked symbols being deleted before  
38 transmission on each communication channel when [the] said frame is in compressed mode, so  
39 as to [husband the] provide said inactive period [in the course of] within the frame.

1 2. (Amended) Method according to Claim 1, [in which the] wherein said marked  
2 symbols are kept until the seventh sequences  $[(v_j)]$  when [the] said frame is in compressed  
3 mode, without being extracted from the seventh sequences for transmission.

1 3. (Amended) Method according to Claim 1 [or 2, in which] wherein additional  
2 marked symbols are inserted into the second or the fifth sequence  $[(h_i, w)]$ , these symbols being  
3 kept until the seventh sequences  $[(v_j)]$  so as to be transmitted with zero transmission power.

1 4. (Amended) Device for processing X streams of information symbols to be  
2 transmitted on Y communication channels, X and Y being positive integers, the Y  
3 communication channels simultaneously occupying a transmission resource organized as  
4 successive frames, the successive frames including compressed-mode frames each having at  
5 least one inactive period during which no symbol is transmitted, the information symbols of  
6 each stream  $i$  ( $1 \leq i \leq X$ ) being transmitted in [the course of] successive transmission time  
7 intervals each comprising  $F_i$  consecutive frames,  $F_i$  being a positive integer, integers  $E_i$ ,  $\Delta N_i^{TTI}$

8 and  $\Delta N_i^{cm}$  being defined for each transmission time interval relating to a stream  $i$  ( $1 \leq i \leq X$ ),  
 9 with  $E_i > 0$ ,  $\Delta N_i^{cm} < 0$  if [the] said transmission time interval comprises at least one  
 10 compressed-mode frame and  $\Delta N_i^{cm} = 0$  if [the] said transmission time interval does not  
 11 comprise any compressed-mode frame, the device comprising:  
 12 means [(21,-23<sub>i</sub>)] for forming a first sequence [(c<sub>i</sub>)] of  $E_i$  coded symbols [on the basis  
 13 of] from information symbols of each stream  $i$  ( $1 \leq i \leq X$ ) pertaining to a transmission time  
 14 interval;  
 15 means [(24<sub>i</sub>,-25<sub>i</sub>)] for forming, for each transmission time interval relating to a  
 16 stream ( $1 \leq i \leq X$ ), a second sequence of symbols [(h<sub>i</sub>)] including  $E_i + \Delta N_i^{TM} + \Delta N_i^{CM}$  symbols  
 17 extracted from the first sequence and  $\Delta N_i^{CM}$  marked symbols;  
 18 means [(26<sub>i</sub>)] for forming a third sequence of symbols [(q<sub>i</sub>)] by a first permutation of the  
 19 symbols of each second sequence;  
 20 means [(27<sub>i</sub>)] for distributing the symbols of each third sequence, [which is] formed for  
 21 a transmission time interval relating to a stream  $i$  ( $1 \leq i \leq X$ ), into  $F_i$  segments of consecutive  
 22 symbols respectively assigned to the frames of said transmission time interval, and for forming  
 23  $F_i$  fourth sequences [(f<sub>i</sub>)] of symbols respectively extracted from the segments assigned to [the]  
 24 said frames;  
 25 means [(28-29)] for forming, for each frame, a fifth sequence of symbols [(w)]  
 26 including the symbols of the fourth sequence output for [the] said frame in relation to each  
 27 stream  $i$  ( $1 \leq i \leq X$ );  
 28 means [(30)] for distributing the symbols of each fifth sequence into  $Y$  segments of  
 29 symbols respectively assigned to the  $Y$  communication channels;

30 means [(31<sub>j</sub>)] for forming a sixth sequence [(u<sub>j</sub>)] of symbols extracted from the segment  
31 assigned to each communication channel; and

32 means [(32<sub>j</sub>)] for forming a seventh sequence of symbols [(v<sub>j</sub>)] by a second permutation  
33 of the symbols of each sixth sequence, and for transmitting, in time slots of each frame on each  
34 communication channel, symbols extracted from the seventh sequence, [in which] wherein the  
35 first permutation and the placing of the marked symbols in the second sequence, [which is]  
36 formed for a transmission time interval relating to a stream when [the] said transmission time  
37 interval comprises at least one compressed-mode frame, are such that each marked symbol  
38 belongs, in the third sequence [which is] formed for [the] said transmission time interval, to a  
39 segment assigned to a compressed-mode frame, each of said marked symbols being deleted  
40 before transmission on each communication channel so as to [husband the] provide said  
41 inactive period [in the course of] within the frame.

1 5. (Amended) Device according to Claim 4, [in which] wherein the means [(26<sub>i</sub> –  
2 32<sub>j</sub>)] for forming the third, fourth, fifth, sixth and seventh sequences of symbols [(q<sub>i</sub>, f<sub>i</sub>, w, u<sub>j</sub>,  
3 v<sub>j</sub>) are configured so as] are arranged to keep [the\ said marked symbols until the seventh  
4 sequences [(v<sub>j</sub>) which are] formed for each compressed-mode frame, [the] whereby said marked  
5 symbols are not [being] extracted from the seventh sequences for transmission.

1 6. (Amended) Device according to Claim 4 [or 5], comprising means [(25<sub>i</sub>, 29)]  
2 for inserting, into the second or fifth sequences [(h<sub>i</sub>, w)], additional marked symbols which are  
3 kept until the seventh sequences [(v<sub>j</sub>)] so as to be transmitted with zero transmission power.

8. (Amended) Method of processing Y digital streams  $[(r'_j)]$  obtained [on the basis of a] from a received signal (received) and comprising estimates of information symbols respectively transmitted along Y communication channels simultaneously occupying a transmission resource organized as successive frames, and pertaining to X transport channels, X and Y being positive integers, [in which] wherein the successive frames include compressed mode frames each having at least one inactive period during which no symbol is transmitted, and [in which] wherein the estimates of information symbols pertaining to each transport channel i ( $1 \leq i \leq X$ ) are received in [the course of] successive transmission time intervals each comprising  $F_i$  consecutive frames,  $F_i$  being a positive integer, the method comprising the following steps for each frame:

forming, in relation to each communication channel j ( $1 \leq j \leq Y$ ), a first sequence  $[(v'_j)]$  composed of estimates extracted from the time slots of [the] said frame and, when [the] said frame is in compressed mode, of marked estimates placed at positions corresponding to the inactive period of [the] said frame;

for each communication channel, forming a second sequence of estimates  $[(u'_j)]$  by a permutation of the estimates of the first sequence;

forming a third sequence of estimates  $[(s')]$  including estimates of the second sequence [which is] output for each communication channel; and

distributing the estimates of the third sequence into X segments  $[(f_i)]$  of consecutive estimates, the X segments being respectively assigned to the X transport channels, and the following steps for each transmission time interval relating to a transport channel;

22 forming a fourth sequence  $[(q'_i)]$  by concatenating the respective segments  $[(f_i)]$   
23 assigned to [the] said transport channel for the frames of [the] said transmission time interval;  
24 permuting the estimates of the fourth sequence and forming a fifth sequence  $[(g'_i)]$  of  
25 estimates extracted from the [fourth] permuted fourth sequence  $[(h'_i)]$ ;  
26 ignoring each marked estimate of the fifth sequence, and forming a sixth sequence of  
27 symbols  $[(c'_i)]$  on the basis of the other estimates of the fifth sequence; and  
28 decoding the sixth sequence of estimates and outputting the decoded estimates  $[(a'_i)]$ .

1 9. (Amended) Method according to Claim 8, [in which] wherein the step of  
2 forming [of] the third sequence  $[(s'_i)]$  for at least one frame comprises [a] concatenating [of] the  
3 second sequences  $[(u'_i)]$  which are] formed for the Y communication channels and [a] deleting  
4 [of] at least one estimate having a determined position in the concatenated sequence  $[(w')]$ .

1 10. (Amended) Method according to Claim 8, [in which] wherein the step of  
2 [formation of] the fifth sequence  $[(g'_i)]$  for at least one transmission time interval relating to a  
3 transport channel comprises [a] deleting [of] at least one estimate having a determined position  
4 in the [fourth] permuted fourth sequence  $[(h'_i)]$ .

1 11. (Amended). Device for processing Y digital streams  $[(r'_i)]$  obtained [on the basis  
2 of a] from a received signal [received] and comprising estimates of information symbols  
3 respectively transmitted along Y communication channels simultaneously occupying a  
4 transmission resource organized as successive frames, and pertaining to X transport channels, X  
5 and Y being positive integers, the successive frames including compressed-mode frames each

6 having at least one inactive period during which no symbol is transmitted, and the estimates of  
7 information symbols pertaining to each transport channel  $i$  ( $1 \leq i \leq X$ ) being received in [the  
8 course of] successive transmission time intervals each comprising  $F_i$  consecutive frames,  $F_i$   
9 being a positive integer, the device comprising:

10 means [(52)] for forming, for each frame in relation to each communication channel, a  
11 first sequence  $[(v'_i)]$  composed of estimates extracted from the time slots of [the] said frame  
12 and, when [the] said frame is in compressed mode, marked estimates placed at positions  
13 corresponding to the inactive period of [the] said frame;

14 means [(51)] for forming, for each frame in relation to each communication channel, a  
15 second sequence of estimates  $[(u'_i)]$  by permutation of the estimates of the first sequence;

16 means [(50, 49)] for forming, for each frame, a third sequence of estimates  $[(s'_i)]$   
17 including estimates of the second sequence [which is] output for each communication channel;

18 means [(48)] for distributing the estimates of the third sequence formed for each frame  
19 into  $X$  segments  $[(f'_i)]$  of consecutive estimates, the  $X$  segments being respectively assigned to  
20 the  $X$  transport channels;

21 means [(47)] for forming a fourth sequence  $[(q'_i)]$  for each transmission time interval  
22 relating to a transport channel, by concatenating the respective segments  $[(f'_i)]$  assigned to [the]  
23 said transport channel for the frames of [the] said transmission time interval;

24 means [(46, 45)] for permuting the estimates of the fourth sequence [which is] formed  
25 for each transmission time interval relating to a transport channel, and for forming a fifth  
26 sequence  $[(g'_i)]$  of estimates extracted from the fourth permuted sequence  $[(h'_i)]$ ;



27 means [(44<sub>i</sub>)] for deleting each marked estimate of the fifth sequence [which is] formed  
28 for each transmission time interval relating to a transport channel, and for forming a sixth  
29 sequence of symbols [(c'<sub>i</sub>)] on the basis of the other estimates of the fifth sequence; and  
30 means [(43<sub>i</sub>, 41<sub>i</sub>)] for decoding the sixth sequence of estimates [which is] formed for  
31 each transmission time interval relating to a transport channel, [so as] to output the decoded  
32 estimates [(a'<sub>i</sub>)].

1 12 (Amended) Device according to Claim 11, [in which] wherein the means for  
2 forming the third sequence of estimates [(s')] comprise means [(50)] for concatenating the  
3 second sequences [(u'<sub>i</sub>)] which are] formed for the Y communication channels and means [(49)]  
4 for deleting at least one estimate having a determined position in the concatenated sequence  
5 [(w'<sub>i</sub>)].

1 13. (Amended) Device according to Claim 11, [in which] wherein the means for  
2 forming the fifth sequence [(g'<sub>i</sub>)] comprise means [(45<sub>i</sub>)] for deleting at least one estimate  
3 having a determined position in the [fourth] permuted fourth sequence [(h'<sub>i</sub>)].

1 --15. (New) Radiocommunication base station comprising source means for  
2 providing X streams of information symbols to be transmitted on Y communication channels  
3 simultaneously occupying a transmission resource organized as successive frames, X and Y  
4 being positive integers, processing means for forming sequences of output symbols from said X  
5 streams of information symbols, and transmission means for transmitting said sequences of  
6 output symbols on the Y communication channels, wherein the successive frames include

7 compressed-mode frames each having at least one inactive period during which no symbol is  
 8 transmitted, the information symbols of each stream  $i$  ( $1 \leq i \leq X$ ) being transmitted in  
 9 successive transmission time intervals each comprising  $F_i$  consecutive frames,  $F_i$  being a  
 10 positive integer, wherein integers  $E_i$ ,  $\Delta N_i^{\text{TTI}}$  and  $\Delta N_i^{\text{cm}}$  are defined for each transmission time  
 11 interval relating to a stream  $i$  ( $1 \leq i \leq X$ ), with  $E_i > 0$ ,  $\Delta N_i^{\text{cm}} < 0$  if said transmission time  
 12 interval comprises at least one compressed-mode frame and  $\Delta N_i^{\text{cm}} = 0$  if said transmission time  
 13 interval does not comprise any compressed-mode frame, wherein the processing means  
 14 comprise:  
 15 means for forming a first sequence of  $E_i$  coded symbols from information symbols of  
 16 each stream  $i$  ( $1 \leq i \leq X$ ) pertaining to a transmission time interval;  
 17 means for forming, for each transmission time interval relating to a stream  $i$  ( $1 \leq i \leq X$ ),  
 18 a second sequence of symbols including  $E_i + \Delta N_i^{\text{TTI}} + \Delta N_i^{\text{cm}}$  symbols extracted from the first  
 19 sequence and  $-\Delta N_i^{\text{cm}}$  marked symbols;  
 20 means for forming a third sequence of symbols by a first permutation of the symbols of  
 21 each second sequence;  
 22 means for distributing the symbols of each third sequence, formed for a transmission  
 23 time interval relating to a stream  $i$  ( $1 \leq i \leq X$ ), into  $F_i$  segments of consecutive symbols  
 24 respectively assigned to the frames of said transmission time interval, and for forming  $F_i$  fourth  
 25 sequences of symbols respectively extracted from the segments assigned to said frames;  
 26 means for forming, for each frame, a fifth sequence of symbols including the symbols of  
 27 the fourth sequence output for said frame in relation to each stream  $i$  ( $1 \leq i \leq X$ );

28 means for distributing the symbols of each fifth sequence into Y segments of symbols  
29 respectively assigned to the Y communication channels;  
30 means for forming a sixth sequence of symbols extracted from the segment assigned to  
31 each communication channel; and  
32 means for forming one of said sequences of output symbols by a second permutation of  
33 the symbols of each sixth sequence,  
34 wherein the first permutation and the placing of the marked symbols in the second sequence,  
35 formed for a transmission time interval relating to a stream when said transmission time  
36 interval comprises at least one compressed-mode frame, are such that each marked symbol  
37 belongs, in the third sequence formed for said transmission time interval, to a segment assigned  
38 to a compressed-mode frame, each of said marked symbols being deleted before transmission  
39 on each communication channel so as to provide said inactive period within the frame.

15  
16. (New) Base station according to Claim 15, wherein the means for forming the  
2 third, fourth, fifth and sixth sequences of symbols and the sequences of output symbols are  
3 arranged to keep said marked symbols until the sequences of output symbols formed for each  
4 compressed-mode frame, whereby said marked symbols are not extracted from the sequences of  
5 output symbol for transmission.

1 17. (New) Base station according to Claim 15, wherein the processing means  
2 further comprise means for inserting, into the second or fifth sequences, additional marked  
3 symbols which are kept until the sequences of output symbols so as to be transmitted with zero  
4 transmission power.

1           18.   (New) Radiocommunication terminal, comprising reception means to provide Y  
2 digital streams from a received signal and processing means for processing said Y digital  
3 streams to feed X transport channels, X and Y being positive integers, said Y digital streams  
4 including estimates of information symbols pertaining to the X transport channels and  
5 respectively transmitted along Y communication channels simultaneously occupying a  
6 transmission resource organized as successive frames, the successive frames including  
7 compressed-mode frames each having at least one inactive period during which no symbol is  
8 transmitted, the estimates of information symbols pertaining to each transport channel  $i$  ( $1 \leq i \leq$   
9  $X$ ) being received in successive transmission time intervals each comprising  $F_i$  consecutive  
10 frames,  $F_i$  being a positive integer, wherein the processing means comprise:

11           means for forming, for each frame in relation to each communication channel, a first  
12 sequence composed of estimates extracted from the time slots of said frame and, when said  
13 frame is in compressed mode, marked estimates placed at positions corresponding to the  
14 inactive period of said frame;

15           means for forming, for each frame in relation to each communication channel, a second  
16 sequence of estimates by permutation of the estimates of the first sequence;

17           means for forming, for each frame, a third sequence of estimates including estimates of  
18 the second sequence output for each communication channel;

19           means for distributing the estimates of the third sequence formed for each frame into X  
20 segments of consecutive estimates, the x segments being respectively assigned to the X  
21 transport channels;

22 means for forming a fourth sequence for each transmission time interval relating to a  
23 transport channel, by concatenating the respective segments assigned to said transport channel  
24 for the frames of said transmission time interval;

25 means for permuting the estimates of the fourth sequence formed for each transmission  
26 time interval relating to a transport channel, and for forming a fifth sequence of estimates  
27 extracted from the fourth permuted sequence;

28 means for deleting each marked estimate of the fifth sequence formed for each  
29 transmission time interval relating to a transport channel, and for forming a sixth sequence of  
30 symbols on the basis of the other estimates of the fifth sequence; and means for decoding the  
31 sixth sequence of estimates formed for each transmission time interval relating to a transport  
32 channel, to output decoded estimates for the transport channel.

1 19. (New) Terminal according to Claim 18, wherein the means for forming the third  
2 sequence of estimates comprise means for concatenating the second sequences formed for the Y  
3 communication channels and means for deleting at least one estimate having a determined  
4 position in the concatenated sequence.

1 20. (New) Terminal according to Claim 18, wherein the means for forming the fifth  
2 sequence comprise means for deleting at least one estimate having a determined position in the  
3 permuted fourth sequence. —

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